Bruhat Bangalore Mahanagara Palike
Excecutive Engineer Yelahanka Division

Name of Work: Improvements to Roads and Drains at Kamakshamma layout and Chowdeshwari layout in ward no-02 of Yelahanka Sub division

					Estimate Cost Rs.			90.00 Lakhs	
Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
1	Removing & Refixing stone slabs of drains and pointing in C.M (1:3) (Page No 27., I.No.5.33 of KPWD S.R 2018-19).								
	Basic rate	105.00							
	6.00% AW	6.30							
	Sub total	**111.30**							
	Ward 02								
	Main road	2	141.00	0.75		211.50			
	Cross A	2	28.00	0.75		42.00			
	Cross B	2	27.00	0.75		40.50			
	Cross C	2	26.00	0.75		39.00			
	Cross D	2	49.00	0.75		73.50			
	Cross E	2	44.00	0.75		66.00			
	Cross F	2	37.00	0.75		55.50			
	Cross G	2	29.00	0.75		43.50			
						571.50			
	deduct 40% missing or damaged					228.60			
						342.90	**Sqm**	**111.30**	**38,164.77**
2	Earthwork in execavation for foundation of structure like culverts, retaining wall etc., as per drawing and technical specification, including setting out, construction of shoring and bracing, dressing of sides and bottom, back filling with approved material, disposal of balance earth as per specification, including cost of labour, HOM etc., complete. In all kinds of soil by manual means. (P.No.256, I.No.34.15.1 of PW,P&IWTD S.R 2018-19)								
	Basic rate	180.00							
	Area weightage 6%	10.80							
	Sub total	190.80							
	Lead 10 km	**82.60**							
	Total	**273.40**							
	Drain desilt								
	Ward 02								
	Main road	2	141.00	0.45	0.45	57.11			
	Cross A	2	28.00	0.45	0.45	11.34			
	Cross B	2	27.00	0.45	0.40	9.72			
	Cross C	2	26.00	0.45	0.40	9.36			
	Cross D	2	49.00	0.45	0.40	17.64			
	Cross E	2	44.00	0.45	0.40	15.84			
	Cross F	2	37.00	0.45	0.40	13.32			
	Cross G	2	29.00	0.45	0.40	10.44			
	For Drain								
	Balaji layout								
	1st main	2	310.00	1.05	1.00	651.00			
						795.77	**Cum**	**273.40**	**217562.15**

3	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC @ 220kgs, with 40mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days complete as per specifications, MORTH specifications No. 408, (P.No.13, I.No.4-1.2 of PW,P&IWTD S.R 2018-19)									
	Basic rate	5194.00								
	Area weightage 6%	311.64								
	Total	**5505.64**								
	For Drain									
	Balaji layout									
	1st main	2	310.00	1.05	0.15	97.65				
	For Road									
	Ward 02									
	Markandaya temple	1	43.00	3.80	0.15	24.51				
	Kondappa layout 11th cross	1	55.00	5.00	0.15	41.25				
	Near Varadaraju House	1	63.00	4.00	0.15	37.80				
						201.21	**Cum**	**5505.64**	**1107789.82**	
4	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of Design Mix M20 with OPC @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.460 cum, with super plasticisers @ 3 liters confirming to IS 9103-1999 reafirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation for footings, pedastals, retaining walls, return walls, walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks, anchor blocks & plinths etc., including cost of all materials, labour, HOM curing, complete but excluding cost of reinforcement as per specifications. Specification No. KBS 4.1, 4.6 (P.No.14, I.No.4.11 of PW, P&IWTD S.R 2018-19)									
	Basic rate	5659.00								
	Area weightage 6%	339.54								
	Total	**5998.54**								
	For Drain									
	Balaji layout									
	Raft									
	1st main	2	310.00	0.90	0.15	83.70				
	Wall									
	1st main	4	310.00	0.15	0.60	111.60				
						195.30	**Cum**	**5998.54**	**1171514.86**	
5	KSRB 4-6.4 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surface such as walls at any thickness, including attached pilasters, buttresses, plinth and string courses cost of all materials, labour complete as per specificaitons. Specification No. KBS 4.6.2 (I No-4.31,P No-15)									
	Basic rate	358.00								
	Area weightage 6%	21.48								
	Total	**379.48**								
	For Drain									
	Balaji layout									
	1st main	8	310.00		0.60	1488.00				
						1488.00	**Sqm**	**379.48**	**564666.24**	

6	KSRRB - M2300-14: Providing TMT steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, palcing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining memebrs wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications.MORTH Specification No. 1600 & 2200 for TMT bars Fe 500. (P.No.239, I.No.29.29.2 of PW, P&IWTD S.R 2018-19)								
	Basic rate	69804.00							
	Area weightage 6%	4188.24							
	Total	**73992.24**							
	For Drain								
	65Kg/Cum of Concrete		195.30	65.00		12.69			
						12.69	**Tn**	**73992.24**	**939294.49**
7	Providing and fixing RCC Precast cover slab of 100mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data rate	2337.00							
	For Drain								
	Balaji layout								
	1st main	2	310.00	0.90		558.00			
	frm item no.01 missing/damaged					228.60			
						786.60	**Sqm**	**2337.00**	**1838284.20**
8	KSRRB M300-14. **Excavation for roadwork** in all types of soil by mechanical means including cutting and loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transportation with a lead of 1.00 km and complete as per specifications. MORTH Specification No.301 (Page No143., I.No.19.14 of KPWD S.R 2018-19).								
	Basic rate	41.00							
	6.00% AW	2.46							
	Sub total	**43.46**							
	5 Km Lead	25.6							
	Total	**69.06**							
	Ward 02								
	Main road	1	141.00	2.00	0.20	56.40			
	Cross A	1	28.00	1.90	0.20	10.64			
	Cross B	1	27.00	4.70	0.20	25.38			
	Cross C	1	26.00	1.85	0.20	9.62			
	Cross D	1	49.00	4.40	0.20	43.12			
	Cross E	1	44.00	1.95	0.20	17.16			
	Cross F	1	37.00	1.95	0.20	14.43			
	Cross G	1	29.00	1.90	0.20	11.02			
						187.77	**Cum**	**69.06**	**12,967.40**
9	**Construction of granular sub-base Grading-V** as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications. Clause 401 of MORTH V Revision. (Page No 153., I.No.20.5 of KPWD S.R 2018-19).								
	Basic rate	1882.00							
	6.00% AW	112.92							

	Sub total	**1994.92**							
	Ward 02								
	Main road	1	141.00	2.00	0.10	28.20			
	Cross A	1	28.00	1.90	0.10	5.32			
	Cross B	1	27.00	4.70	0.10	12.69			
	Cross C	1	26.00	1.85	0.10	4.81			
	Cross D	1	49.00	4.40	0.10	21.56			
	Cross E	1	44.00	1.95	0.10	8.58			
	Cross F	1	37.00	1.95	0.10	7.22			
	Cross G	1	29.00	1.90	0.10	5.51			
						93.89	**Cum**	**1994.92**	**187293.06**
10	KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to **wet mix macadam** specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH Specification No. 406 (P.No.155 I.No.20.18) KPWD SR 2018-19								
	Basic rate	1888.00							
	6.00% AW	113.28							
	Sub total	**2001.28**							
	Ward 02								
	Main road	1	141.00	2.00	0.200	56.40			
	Cross A	1	28.00	1.90	0.200	10.64			
	Cross B	1	27.00	4.70	0.200	25.38			
	Cross C	1	26.00	1.85	0.200	9.62			
	Cross D	1	49.00	4.40	0.200	43.12			
	Cross E	1	44.00	1.95	0.200	17.16			
	Cross F	1	37.00	1.95	0.200	14.43			
	Cross G	1	29.00	1.90	0.200	11.02			
						187.77	**Cum**	**2001.28**	**375780.35**
11	KSRRB M500-6. Providing and applying **primer coat** with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications. Clause 502 of MORTH V revision (P.No.158/It No.21.6) KPWD SR 2018-19								
	Basic rate	28.00							
	6.00% AW	1.68							
	Sub total	**29.68**							
	For DBM								
	Ward 02								
	Main road	1	141.00	2.00		282.00			
	Cross A	1	28.00	1.90		53.20			
	Cross B	1	27.00	4.70		126.90			
	Cross C	1	26.00	1.85		48.10			
	Cross D	1	49.00	4.40		215.60			
	Cross E	1	44.00	1.95		85.80			
	Cross F	1	37.00	1.95		72.15			
	Cross G	1	29.00	1.90		55.10			
						938.85	**Sqm**	**29.68**	**27,865.07**

12	KSRRB M500-17. Providing and laying **dense graded bituminous macadam** using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 505 of MORTH V revision. - do - using 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (P.No.160 It.No.21.17.6) KPWD SR 2018-19								
	Basic rate	6470.00							
	6.00% AW	388.2							
	Sub total	**6858.2**							
	Ward 02								
	Main road	1	141.00	2.00	0.05	14.10			
	Cross A	1	28.00	1.90	0.05	2.66			
	Cross C	1	26.00	1.85	0.05	2.41			
	Cross E	1	44.00	1.95	0.05	4.29			
	Cross F	1	37.00	1.95	0.05	3.61			
	Cross G	1	29.00	1.90	0.05	2.76			
						29.82	**Cum**	**6858.20**	**204494.38**
13	KSRRB 500-7. Providing and applying **tack coat** using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM complete as per specifications. Clause 503 of MORTH V revision. (P.No.158 & I.No.21.7) KPWD SR 2018-19								
	Basic rate	12.00							
	6.00% AW	0.72							
	Sub total	**12.72**							
	For BC								
	Ward 02								
	Main road	1	141.00	5.50		775.50			
	Cross A	1	28.00	4.40		123.20			
	Cross B	1	27.00	4.70		126.90			
	Cross C	1	26.00	4.90		127.40			
	Cross D	1	49.00	4.40		215.60			
	Cross E	1	44.00	4.80		211.20			
	Cross F	1	37.00	4.00		148.00			
	Cross G	1	29.00	5.00		145.00			
						1872.80	**Sqm**	**12.72**	**23,822.02**
14	KSRRB M500-19. Providing and laying **bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision. - do - using40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 40 mm) with 5.4% VG-30 Bitumen (P.No.162 Item No.21.22.6) KPWD SR 2018-19								
	Basic rate	7464.00							
	6.00% AW	447.84							
	Sub total	**7911.84**							
	Ward 02								
	Main road	1	141.00	5.50	0.04	31.02			
	Cross A	1	28.00	4.40	0.04	4.93			
	Cross B	1	27.00	4.70	0.04	5.08			
	Cross C	1	26.00	4.90	0.04	5.10			
	Cross D	1	49.00	4.40	0.04	8.62			
	Cross E	1	44.00	4.80	0.04	8.45			

	Cross F	1	37.00	4.00	0.04	5.92			
	Cross G	1	29.00	5.00	0.04	5.80			
						74.91	Cum	7911.84	592691.7
15	KSRRB M800-13 **Road Marking with Hot Applied Thermoplastic Compound** with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803 (P.No.182 & I.No.24.15) KPWD SR 2018-19								
	Basic rate	429.00							
	6.00% AW	25.74							
	Sub total	**454.74**							
	Ward 02								
	Main road	2	141.00	0.10		28.20			
	Cross A	2	28.00	0.10		5.60			
	Cross B	2	27.00	0.10		5.40			
	Cross C	2	26.00	0.10		5.20			
	Cross D	2	49.00	0.10		9.80			
	Cross E	2	44.00	0.10		8.80			
	Cross F	2	37.00	0.10		7.40			
	Cross G	2	29.00	0.10		5.80			
						76.20	Sqm	580.71	44,250.10
16	KSRRB M200-24. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials stacking serviceable and unserviceable materials seperately complete as per specifications. MORTH Specification No. 202 (Page No140., I.No.18.47 of KPWD S.R								
	Basic rate	899.00							
	6% AW	53.94							
	Sub Total	952.94							
	16km Lead & lift with Transport = (1.28*2*10)+57	82.60							
	Sub Total	1035.54							
	Ward 02								
	Markandaya temple	1	43.00	3.80	0.100	16.34			
	Kondappa layout 11th cross	1	55.00	5.00	0.100	27.50			
	Near Varadaraju House	1	63.00	4.00	0.100	25.20			
						69.04	Cum	1035.54	71493.68

17	Constructing un-reinforced, plain cement concrete for pavements using Grade concrete M30 over a prepared base with OPC coarse aggregate at 0.69 cum, fine aggregates at 0.46um,Coarse and fine aggregate conforming to IS:383-2016, with Superplastizer at 3 lts conforming to IS 9103-2008. mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades, textured with texturing machine, and curing including cost of all materials, labour,hire charges of machineries,all lead & lift charges etc., complete as per specifications. -do- with OPC at 360 kg/cum and coarse aggregate 0.69cum, fine aggregate 0.46cum.(P.No.176, I.No. 22.6.1) PWD SR 2018-19									
	Basic rate	4916.00								
	6% AW	294.96								
	Sub Total	5210.96								
	Ward 02									
	Markandaya temple	1	43.00	3.80	0.150	24.51				
	Kondappa layout 11th cross	1	55.00	5.00	0.150	41.25				
	Near Varadaraju House	1	63.00	4.00	0.150	37.80				
						103.56	Cum	5210.96	539647.02	
								Total Construction Cost	7957581.37	
								12% GST	954909.76	
								PMC Charges	87,000.00	
								Sub Total	8999491.13	
								Miscellaneous & Rounding off	508.87	
								GRAND TOTAL	9000000.00	

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019.and Data Rates

Assistant Engineer
Ward No-02
BBMP Bangalore

Asst. Executive Engineer,
Yelahanka Sub Division
BBMP Bangalore

Executive Engineer,
Yelahanka Division
BBMP Bangalore

ADMINISTRATIVELY SANCTIONED FOR Rs. 90.00 lakh.

Rupees Joint Estimate

Under Job code 00-002-19-00005/

Registered as EE( ) ____/9/____

Subject to conditions contained in enclosed memo EE( ) No. ____/9/____

Dt. ____ Estimate AA sanctioned vide ACE/4/BS/002/18/2018-19

dated 7-1-2019 for Rs. 90.00 lakh.

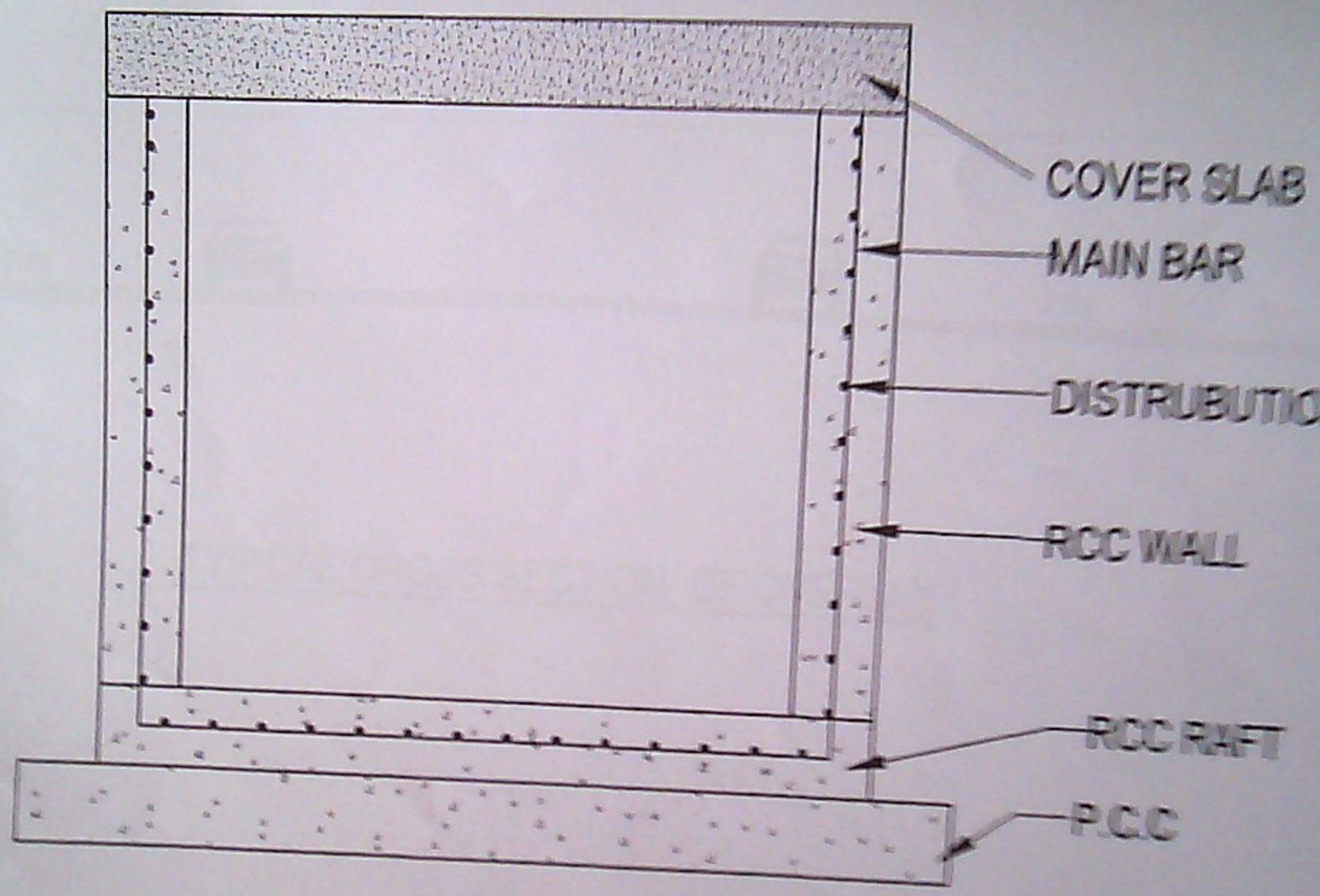
Joint Commissioner
(Yelahanka Zone)

Technical Sanction
Accorded For Rs 90.00 lakhs only
Head of A/C. 3522
CER NO TS/190/18-19 Dt: 08.01.19

TA

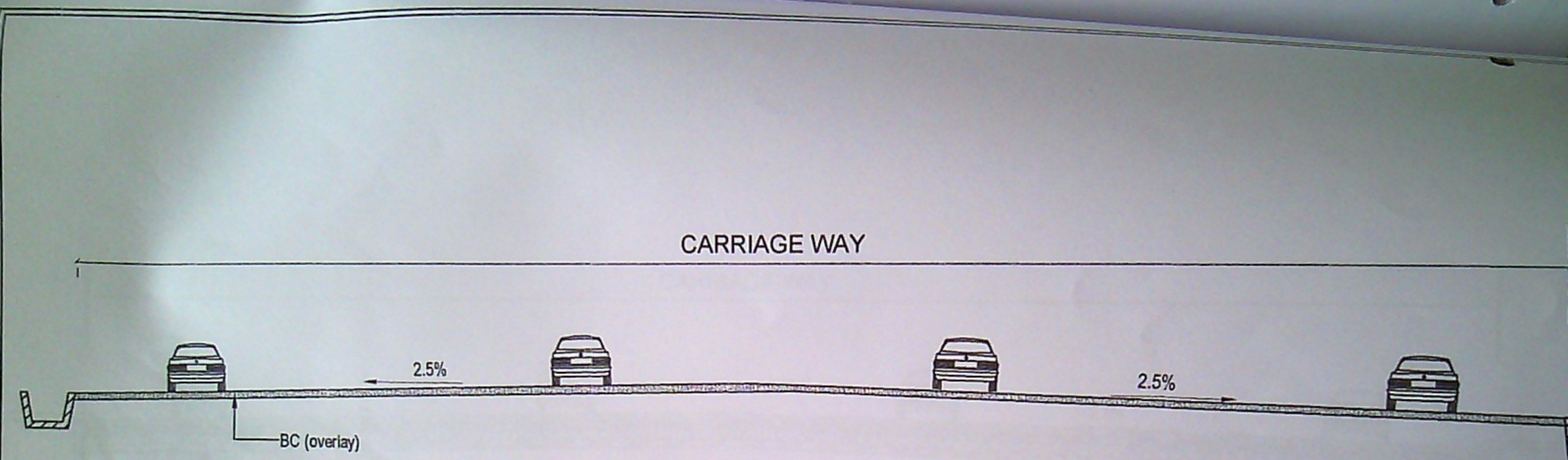
SE (YNK)

HAT BANGALORE ANAGARA PALIKE	Assitante Engineer	Assitante Executive Engineer		Project Name: Improvements to roads and drains at Kondappanna Layout and Chowdeshwari Layout in ward no.38 of Yelahanka Sub Division

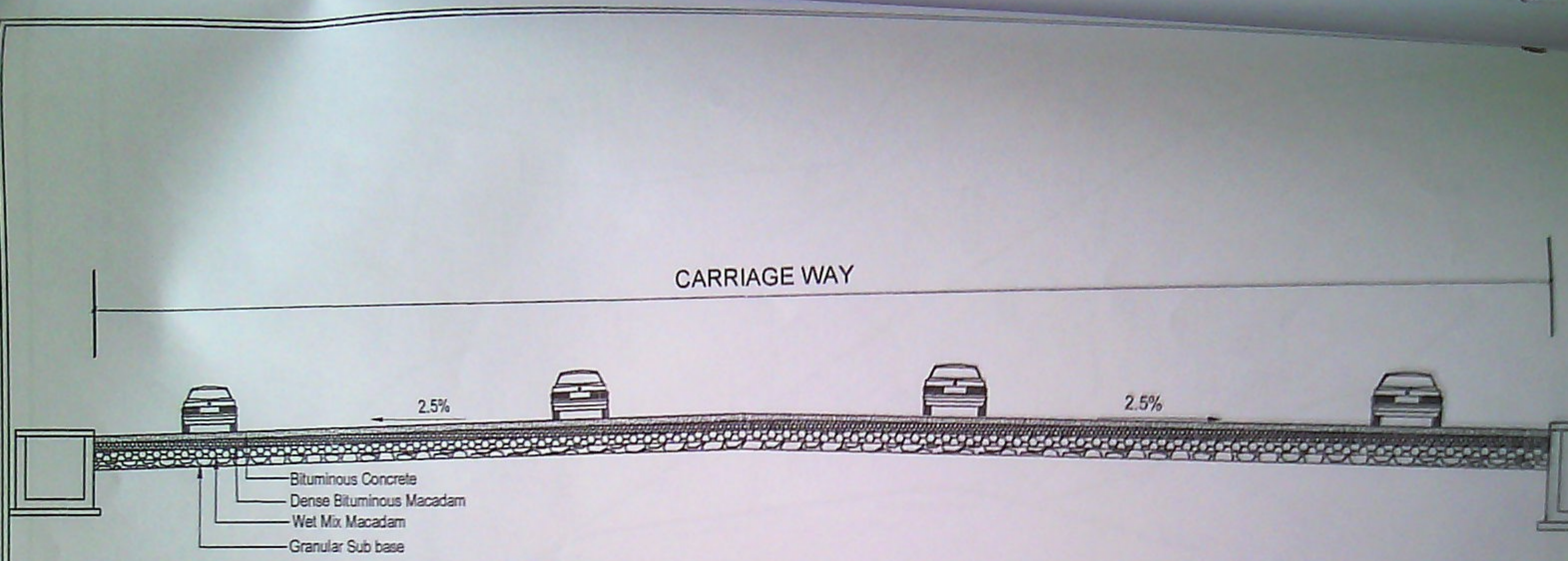


AE-02

PROPOSED TYPICAL CROSS SECTION OF RCC DRAIN

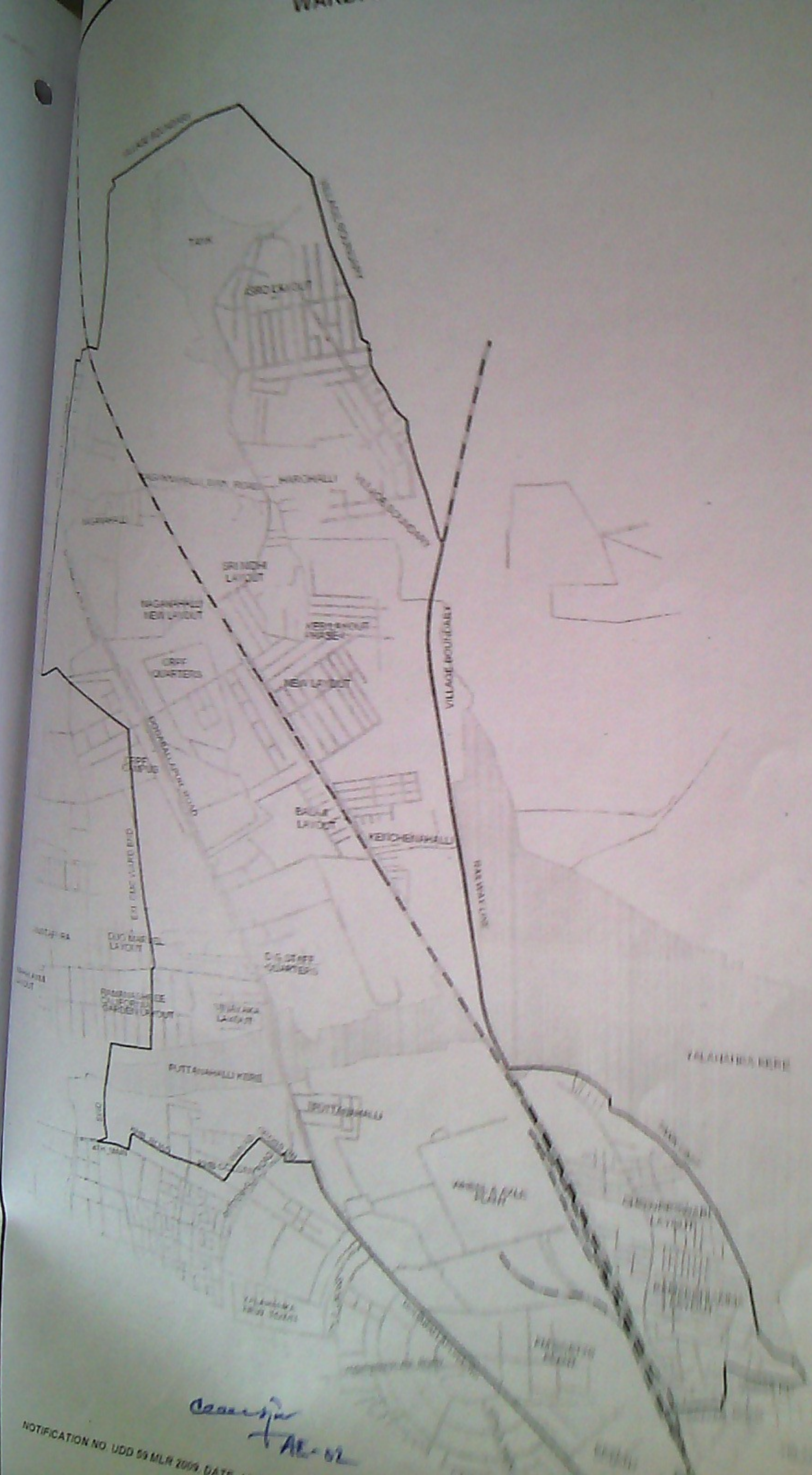


TYPICAL CROSS SECTION OF OVERLAY



TYPICAL CROSS SECTION OF ASPHALT ROAD

AE-02


VILLAGE BOUNDARY
PARAPPANA ROAD
NOTIFICATION NO. UDD 59 MLR 2009, DATE